TABLE OF CONTENTS

DIS 63
Sept 2001

ADMINISTRATION

QUESTIONS & ANSWERS

WHAT'S NEW?

FROM THE LITERATURE

Sealing Amalgam Margin Defects
Another Waterline Bond Strength Study
Patients Care about Infection Control
Resolution is in the Eye of the Beholder
What a Pain in the #$%!*&
Another Blow to Bulk Curing of Packable Composites
Dentists and Their Rates of Suicide
Maximizing the Success of Your Posterior Resin Composite Restorations
Etching Unprepared Enamel When Using Self-etching Primers
Long-term Clinical Performance of Amalgambond Plus
Do We Have to Seal Resin-modified Glass-ionomer Restorative Materials?

GENERAL DENTISTRY

63-09 PrepStart Air Abrasion Unit
63-10 Nexus 2 Universal Luting System
63-11 Cavitron Select Ultrasonic Scaler
63-12 Micronew Reinforced Microfill Composite
63-13 Original D Amalgam
63-14 aXcs Dental Chair and aXcs Dental Unit Combination
63-15 Zap Dual Curing Light
63-16 All-Dri Flat Pad
63-17 Acucam Concept IV
63-18 Expa-syl Temporary Gingival Retraction System
63-19 Palfique Estelite Resin Composite
63-20 Flexitime Impression Material
63-21 Disposable Prophy Angles

LABORATORY

63-22 VaporJet

INFECTION CONTROL

63-23 MicroCLEAR

ADMINISTRATION

63-01 Dental Laboratory Technology Message Board Site

DIS would like to announce that a message board site has been established for the federal dental services on the topic of Dental Laboratory Technology. The site is made available through the USAF School of Aerospace Medicine home page. The purpose of the site is to provide a means for posting and sharing laboratory-related information among interested personnel. The site also makes it possible for users to ask questions of interest to the federal services dental laboratory community.

Although the initial login involves several steps, future logins are fast and easy, especially if you ask that your password be remembered (see # 1 below). To access the Dental Laboratory Technology site, set your browser to wwwsam.brooks.af.mil. This will take you to the homepage for the USAF School of Aerospace Medicine at Brooks AFB TX. Click on the Coffee Shop image toward the bottom of the page. When the page comes up, do the following:

1) Fill out the "Name" and "Password" blocks. Make sure you click on "Remember my Password."
2) On the next page, click on "Yes, I am entering as a new user."
3) Fill out the required information boxes on the next page and click on "Create."
4) On the next page, click on "Go to the Conference Menu."

A list of the various conference topics should now appear, including Dental Laboratory Technology. Let DIS know if you find the web site useful. Please direct all comments to MSgt Gary Osborn.

(MSgt Osborn)

QUESTIONS & ANSWERS

"Questions & Answers" is a feature in which we present and answer the questions we most frequently receive from the field. This month we feature questions about dental lathes, the proper steps to take in renovating a military dental clinic, and new resin composites. Should you want more information about a particular topic, please contact the individual whose name follows the specific answer in which you are interested. If you have a question about a topic not discussed in this issue, feel free to call DIS at DSN 792-7676.

63-02 Dental Lathes and Safety

Question: During a recent Dental Laboratory Safety inspection, we were told that our bench lathes need to be anchored to the bench tops. In the past, this hasn t been an issue. Do lathes have to be bolted down?

Answer: The reason that some people believe dental lathes must be anchored to a bench or counter top is because of an Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.212). The regulation covers various types of machinery and one portion of it states that Machines designed for a fixed location shall be securely anchored to prevent walking or moving. However, OSHA issued an interpretation and compliance letter on 4 Sep 1996 specifically addressing whether or not dental lathes must be anchored down. The letter noted that they do not. OSHA felt it important that dental lathes remain portable for easy relocation to different work areas or storage locations in the laboratory. OSHA also noted that the lathes are fitted with rubber feet that prevent the lathes from moving or walking across the bench top when in use.

It seems clear then that lathes in the dental laboratory do not need to be anchored to a bench or counter top. Nothing prevents you from doing so, but no OSHA requirement exists mandating it. For more information on the applicable OSHA regulation or interpretation letter, please click on the hotlinks.

(MSgt Osborn)

Regulation link: www.osha-slc.gov/OshStd_data/1910_0212.html
Interpretation link: www.osha-slc.gov/OshDoc/Interp_data/I19960904D.html

---

63-03 Facility Renovation Procedures

Question: My dental clinic plans to start a renovation project. How should we proceed?

Answer: Initiating a facility renovation involves three basic phases: 1) planning, 2) formal approval, and 3) funding.

Planning

The first step is to make sure that all involved parties are aware of the proposed project and agree that it is necessary. At a minimum this should include the dental and medical group leadership, the facility manager, and MAJCOM/SGD. At this point, you should be looking for agreement with the basic project concept, prior to putting a lot of energy into the actual design. If structural or functional changes to the facility are involved, formal approval from HQ USAF/SGD is required, but this is generally requested after a preliminary design and cost estimate are obtained.

The second step in planning is to arrive at a preliminary design. This is the point at which DIS s Facility

Design Section (DSN 792-7672) should be contacted. Our staff will help you arrive at a preliminary design which will include the location of walls and the layout of casework (i.e., cabinets, counters) and equipment. Later, structural and utility details such as plumbing and electrical runs will be added by an architect or engineer. For DIS to help with the preliminary design, we will need a copy of the current floor plan. Your facility manager or base civil engineering unit should have this. Ask if they have an electronic version of the plans in AutoCAD format. We have found that an electronic version works best because it can easily be modified on the computer as the design progresses. If the floor plan is not available in AutoCAD format, you will have to photocopy the plans. If you have to reduce the size, please do so at a 50% reduction. Let DIS know what you want the renovation to accomplish and provide any ideas you have regarding possible designs. Once we have the current floor plan and your ideas, we can work together to produce a draft of the desired new layout.

At this point, if facility modification is involved (i.e., moving walls, plumbing, etc.), your regional Health Facilities Officer (HFO) and civil engineering unit should be brought into the loop. Every medical facility has an assigned Health Facilities Officer to help coordinate military construction and renovation projects. Your facility manager should know who the HFO responsible for your facility is. If not, DIS can research to find out who is assigned as your facility s HFO. Sometimes HFOs won't get involved in small renovations, but they do ask to be informed of all projects. The HFO and civil engineering will review the preliminary design for construction feasibility and provide help with your cost estimate. The cost estimate consists of two parts: the cost of construction and the cost of the casework/equipment. The HFO and civil engineering will help you arrive at a cost estimate for construction. The cost of the casework can be obtained from a casework manufacturer. Typically, a casework manufacturer is given a copy of the desired (preliminary) design, and he/she comes back with a refined design using their casework as well as a price quote. For renovations, the casework manufacturer will typically provide the casework installation. Note that this installation cost should be included as a line item on the cost estimate. The cost estimates for the construction and the casework/equipment are then combined to produce the overall cost estimate for the renovation project.

Formal Approval

If structural or functional changes to the facility are involved, formal approval from HQ USAF/SGD is required. As per AFI 47-101 para 3.2.2, "The Dental Squadron Commander must request prior approval for structural or functional changes to dental facilities. The written request must be coordinated through MAJCOM/SGD to HQ USAF/SGD." Obviously, any required local approvals must be obtained as well.

Funding

Gaining approval for the project does not guarantee that funding will be available. Renovations are generally O&M (Operations and Maintenance) projects, so funding will come either from local sources or from MAJCOM. If the project is funded, civil engineering will make arrangements for the final design and construction. For smaller projects, the contracted design and the construction will be handled together. If the project is large and involves considerable facility modification, two funding steps must be accomplished. First, funding must be obtained for an architect/engineering firm to provide a detailed design. Once the architects design is complete, separate funding must be obtained for the construction itself.

If you are faced with renovating a dental clinic, please feel free to contact DIS with your questions or concerns.

(Col Browning)

63-04 New Resin Composites: Are They All They re Cracked Up To Be?

Question: What is the difference between Heliomolar RO composite and Heliomolar HB? Also, are any other new composites like it available?

Answer: Because of patients increasing demand for esthetics, manufacturers have been very busy

producing new resin composites. In fact, within the last year, two supposedly new types or classes of composites have been introduced to the market. Heliomolar HB is an example of one of the new types.

First though, let me address your question about the differences between Heliomolar RO and Heliomolar HB. Heliomolar RO (RO for radiopaque) has been on the market for many years. Because of its excellent polishability and overall esthetics, it is best suited for use in the anterior area. Many studies have been done, however, assessing its durability and wear resistance when it is used in the posterior dentition. It has consistenly been shown to exhibit minimal wear. In addition, it is adequately radiopaque to be seen on radiograph. It contains fluoride due to the inclusion of ytterbium trifluoride, but most studies have shown that little is actually released.

On the other hand, Heliomolar HB (HB for heavy body) has very recently been introduced to the market. Its manufacturer, Ivoclar Vivadent, claims that it is one of only two "reinforced" microfill composites currently available; the other brand is Micronew from Bisco. One of the primary differences between the reinforced and the standard microfills is that the reinforced products are purported to contain a higher percentage of filler particles. This makes them thicker so they can more easily be packed into posterior preparations which, in turn, should make it easier for clinicians to produce acceptable interproximal contacts with them. They are also said to be stronger than standard microfills but still retain their excellent polishability and esthetics. DIS evaluated Micronew and rated it Acceptable ; Heliomolar HB is currently being evaluated. Note, however, that (with some exceptions) we did not find that the physical properties of these microfills were dramatically improved over those of traditional microfills. DIS doesn t believe that these two products represent a significant advance over standard microfill composites. The table below compares the characteristics of Micronew and Heliomolar HB.

Comparative Characteristics of "Reinforced" Microfill Resin Composites

Product	Manufacturer	Number of Shades	% Filler (wt/vol)*	Filler Partide Size (microns)*	Radiopaque	Gov't Cost (per gram of refill resin)
Micronew	Bisco, Inc. 1100 West Irving Park Rd. Schaumburg, IL 60193 (800) 247-3368 (847) 534-6000 (800) 959-9550 FAX www.bisco.com	8	69/NA	Predominantly 0.05 microns	No	$7.65
Heliomolar HB	Ivoclar Vivadent, Inc. 175 Pineview Drive Amherst, NY 14228 (800) 533-6825 (716) 691-0010 (716) 691-2285 FAX www.ivoclarvivadent.us.com	9	66.7/46	NA	Yes	$5.19

* Data supplied by manufacturer

The reinforced microfills were probably brought to the market to compete with another new class of resin composites that was recently introduced. These hybrid composites (Esthet-X from Dentsply/Caulk and Point 4 from SDS/Kerr) are known as the "true universals" because they are formulated to have the properties of a hybrid but the polishability of a microfill. Since they are intended for esthetic purposes, both products are available in a broad range of shades. For example, Esthet-X comes in 31 shades and Point 4 in 22. Unfortunately, a kit of Point 4 only contains 5 of the 22; the others have to be ordered separately. DIS has evaluated Esthet-X and Point 4 and they were rated Acceptable. DIS believes that these composites do provide a better esthetic result than standard hybrids while retaining the good strength properties of standard hybrids. Users should be aware that they are somewhat more expensive than several other popular hybrid composites, but can be cost effective if you purchase them as a replacement of your current hybrid and microfill composites. The table below compares the characteristics of Esthet-X and Point 4.

Comparative Characteristics of "True Universal" Resin Composites

Product	Manufacturer	Number of Shades	% Filler (wt/vol)*	Filler Particle Size (microns)*	Radiopaque	Gov t Cost (per gram of refill resin)
Esthet-X	L.D. Caulk Division Dentsply International, Inc. P.O. Box 359 Milford, DE 19963-0359 (800) 532-2855 (302) 422-4511 (800) 788-4110 FAX www.caulk.com	31	77/60	Range: 0.02 to 2.5 Average: 0.6 to 0.8	Yes	$9.33
Point 4	Kerr Corporation 1717 W. Collins Avenue Orange, CA 92867-9880 (800) 537-7123 (714) 516-7400 (714) 516-7633 FAX www.kerrdental.com	22 (5 in kit)	57.2/76	Average: 0.4	Yes	$8.20

* Data supplied by manufacturer

Whether you need any of these new resin composites or not will depend upon your clinical practice and your degree of satisfaction with the resin composites you currently use. DIS will continue to evaluate new brands of these types of resin composites as they become available.

(Col Charlton)

63-05 Guidelines for Amalgam Bonding

Question: I want to get the best clinical results when I do amalgam bonding. Are there any specific guidelines I should follow?

Answer: Amalgam bonding continues to be a popular procedure because clinicians believe it helps to address some of amalgam s shortcomings. Two of these deficiencies are amalgam s inability to bond to enamel and dentin and its tendency to leak, at least in the short term. Research shows that amalgam bonding products produce a measurable bond between amalgam and tooth structure, reinforces remaining tooth structure, reduces post-treatment microleakage, and may reduce post-treatment sensitivity. Some of these effects are short-term, and most of the evidence for the ability of amalgam bonding to reduce sensitivity is anecdotal, however many practitioners strongly believe it is a viable and beneficial procedure.

To obtain the best result for patients, amalgam bonding must be done correctly. Some of the generally accepted guidelines when placing an amalgam bonding agent follow:

Isolate the treatment area well

To produce the best, most long-lasting results in restorative dentistry, isolation is a must. This is especially true when applying adhesive materials because research has demonstrated that adhesives do not bond well to contaminated surfaces. Although some clinicians can achieve adequate isolation using suction, cotton rolls, gauze and/or absorbant pads, the rubber dam is clearly the most effective means of establishing a dry, clean treatment area.

Choose an amalgam bonding product with which you are familiar and that has clear instructions

This may seem self-evident, but many products come with instructions that are less than clear and user-friendly. Ideally, the product should have a summary instruction card (see example) for amalgam bonding that you can prop up on the counter behind the patient. The dentist and assistant can then refer to the card and ensure the various steps are properly performed. Also, when choosing a bonding product, don't

restrict yourself to using only a dual-cure or self-cure product. Some clinicians believe that these are the only kinds of bonding agents that should be used for amalgam bonding because the bonding agent must be unset at the time when the amalgam is placed into the preparation. They believe that the amalgam and resin can then harden simultaneously and mechanically interlock. Many studies have shown, however, that bonding products that are light activated also bond with amalgam, probably because their thin air-inhibited layer sets during or immediately following amalgam placement.

The product should be applied **exactly** as recommended
Not only should the various steps be performed in the correct order, but the components should be placed precisely as recommended. If the primer liquid is to be agitated on the dentin surface during placement, do so. If a component is supposed to be air-dried for 5 seconds, do so by the clock. I like having a clock in the operatory that has a sweeping hand for seconds so I know I am placing the components for exactly the recommended time. Lastly, if the bonding agent is light activated, make sure you are using a light-curing unit with an adequate irradiance level and ensure all areas to be light cured are exposed to the light.

Minimize the amount of bonding agent you apply
It is important to apply the product in a way that prevents it from pooling in line angles and at the margins. If you are using a self-cure material and it pools at the line angles, you may incorporate it into the amalgam during condensation. Several studies have shown that this has an adverse effect of the properties of the amalgam. One good way to place only the required amount of bonding agent is to apply a small amount using the provided applicator. If it appears to pool, take a dry, second applicator and carefully remove the excess.

If you have questions about these guidelines, please contact DIS. Amalgam bonding is a procedure that continues to be the subject of active research, and additional guidelines may appear as our knowledge of the effectiveness of these products increases.

(Col Charlton)

63-06 Disinfecting Waterlines to Ultrasonic Scaler Units

Question: Our dental clinic utilizes a separate water system (SWS) to supply water to the high-speed handpiece and air/water syringe for patient treatment. We would like to reconfigure our dental units to allow use of the SWS with our ultrasonic scaler. The problem is that we aren't sure if the normal disinfection procedure we use to treat the dental unit will damage the ultrasonic scaler. Can we disinfect the waterlines to the ultrasonic scaler?

Answer: Recently, DIS surveyed manufacturers of ultrasonic scalers to determine which companies recommend chemical disinfection of their equipment's waterlines. The response rate to the survey was 43 percent. Of the surveys returned, only one-half of the manufacturers recommended a waterline disinfection protocol for their units. From the results of this survey, DIS recommends that all dental clinics contact the manufacturer of their specific ultrasonic scalers before beginning any type of chemical disinfection of the waterlines to these devices. Using disinfectants other than those recommended by the manufacturer may cause damage to the ultrasonic scaler and/or void the warranty.

(Col Bartoloni)

63-07 Caries Detection: The Simple Way?

Question: I have been getting some questions on caries detecting solutions from my patients who saw a TV news report on them. I never used them in my practice so I am hoping you can tell me about them. In particular, how do they detect caries and do they actually work?

Answer: Caries detecting solutions were initially developed by Dr. Takao Fusayama, and their purpose is to make it easier for clinicians to distinguish between affected and infected dentin during cavity preparation. Affected dentin is the dentin that is adjacent to a carious lesion and is not contaminated by bacteria. While it may be softer than normal dentin, it should be retained because it has the potential for remineralization. Infected dentin, on the other hand, contains bacteria and should be removed during preparation. So the idea is that the caries detecting solution helps you distinguish between the dentin that should be removed (infected) and the dentin that should be left (affected). These solutions supposedly work by bonding to denatured collagen, which is a byproduct of the carious process. The solvents in caries detecting solutions can be of several types, however propylene glycol is most common because it has the ability to effectively penetrate and stain denatured collagen. Water has also been used as a solvent, but isn t as effective. Using a caries detecting solution is pretty straightforward: you apply it for a certain period of time (often 10 seconds), then rinse it off. You should use the solution as soon as you begin the preparation, because one of the main purposes of the dye is to help you see what needs to be removed and, just as importantly, what tooth structure can be retained. The early solutions were red, but they had the potential for masking pulpal exposures and were hard to distinguish from blood, so many are now green or some other dark color. In addition to caries detection, caries detecting solutions can be used to visualize cracks or craze lines and root canal orifices. Studies on the effectiveness of caries detecting solutions have been equivocal. We do know, however, that they appear to have no adverse effect on dentin bond strengths. I think they're a good idea because it is often quite difficult to distinguish between infected and affected dentin by tactile or visual methods. Here are some of the currently available caries detecting solutions:

Product	Manufacturer	Packaging	Retail Price	Gov t Price
Caries Detector	Kuraray America, Inc. 200 Park Avenue New York, NY 10166-3098 (212) 986-2230 (212) 867-3543 FAX www.kurarayamerica.com/main.cfm	Two 6-mL bottles	$28.95	$17.37
Seek (red dye)	Ultradent Products, Inc. 505 West 10200 South South Jordan, UT 84095 (800) 552-5512 (800) 842-9024 FAX www.ultradent.com/	Four 1.2-mL syringes	$26.00	$22.10
Sable Seek (green-black dye)	Ultradent Products, Inc.	Four 1.2-mL syringes	$26.00	$22.10
Snoop	Pulpdent Corporation 80 Oakland Street PO Box 780 Watertown, MA 02471-0780 (800) 343-4342 (617) 926-6666 (617) 926-6262 FAX www.pulpdent.com	One 12-mL bottle	$24.50	$24.50
To Dye For (comes in red or blue)	Roydent Dental Products 1010 West Hamlin Road Rochester Hills, MI 48309 (248) 652-2500 (800)992-7767 (248) 652-2505 FAX www.roydent.com	25 preloaded pipettes	$22.80	$13.75

(Col Charlton)

63-08 Life Safety Code and Conscious Sedation

Question: How does the number of sedations performed in a facility relate to Life Safety Code requirements?

Answer: The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires that facilities be compliant with the Life Safety Code. This code is National Fire Protection Association Code 101, and its purpose is to provide minimum building design, construction, operation, and maintenance requirements to protect building occupants from the dangers of the effects of fire. The Life Safety Code categorizes buildings into various occupancy classifications according to the purpose for which the facility is used. Each of the occupancy classifications has structural requirements for the facility, with some classifications being more restrictive than others. Most dental facilities are classified as business occupancy. However, facilities providing treatment that causes four or more patients (at the same time) to be incapable of taking action for self-preservation under emergency conditions without assistance from others are classified as ambulatory care occupancy. As might be expected, ambulatory care occupancy carries more restrictive construction standards than business occupancy.

Definition of Ambulatory Health Care Facility per NFPA 101, Life Safety Code:
A building or part of a building used to provide services or treatment to four or more patients at the same time that meets the criteria of either (a) or (b) below.

(a) Facilities that provide, on an outpatient basis, treatment for patients incapable of taking action for self-preservation under emergency conditions without assistance from others.

(b) Facilities that provide, on an outpatient basis, surgical treatment requiring general anesthesia.

Previous JCAHO interpretations linked ambulatory care occupancy to situations where four or more patients were provided sedation to a level such that JCAHO anesthesia standards were triggered (i.e., loss of protective reflexes). If anesthesia standards were not triggered, or if fewer than four patients were under sedation at the same time, the facility would be classified as business occupancy. Effective January 1, 2001, the Anesthesia Care Standards were revised to incorporate standards for sedation. As a result, these previous JCAHO interpretations are no longer current or valid.

Determining when a sedation case counts toward the limit of three is not linked to the definition of any particular level of sedation. Rather, the sole determining factor is whether the sedation makes the patient incapable of taking action for self-preservation under emergency conditions without assistance from others."

Determination of whether a patient is incapable of taking action for self-preservation under emergency conditions without assistance from others" may be made by the local facility (subject to JCAHO review). The local facility should assess, with input from clinicians actually performing sedations, whether sedations (as performed in that facility) would cause a patient to be incapable of taking action for self-preservation without assistance. If there are four or more simultaneous sedations in this category, the facility should be classified as ambulatory health care. Documentation of this assessment should be available during JCAHO inspections in facilities where this may be an issue.

Dental clinics built to business occupancy standards must either:

a. Schedule patients such that there are not four or more patients receiving treatment at the same time which would make them incapable of taking action for self-preservation under emergency conditions without assistance from others", or

b. If clinic operations require that four or more patients receive this category of treatment at the same time, the facility should be upgraded to ambulatory care standards.

Questions concerning this issue should be directed to Col Greg Browning (DSN 792-7672, Comm 847-688-7672, or greg.browning@ndri.med.navy.mil) at DIS.

(Col Browning)

WHAT'S NEW?

"WHAT'S NEW?" features recently-marketed dental equipment and materials. New and innovative products are marketed each month and DIS is unable to evaluate all of them. This section of the newsletter brings these products to your attention. Because DIS has not had the opportunity to evaluate these products, we cannot confirm manufacturers' claims about them. If you would like additional information about the products or are interested in evaluating them, please contact DIS.

Opalescence® Endo is an 35% hydrogen peroxide gel intended for lightening endodontically-treated teeth. The gel is recommended for use in a walking bleach technique. Treatment begins by removing filling material from the tooth's access opening and placing a chemically-activated glass-ionomer material over the gutta percha. The bleaching gel is then expressed into the access opening and a provisional restorative material is placed over it. The treatment is repeated every 3 to 5 days until the desired shade change is achieved. An Opalescence Endo kit (REF/UP 1270) contains two 1.2-mL syringes prefilled with the bleaching gel and 20 disposable syringe dispensing tips. The product is available for $39.95 (retail) and $33.96 (government) from Ultradent at (800) 793-5216, (801) 553-4915 FAX, or www.ultradent.com.

(Col Charlton)

Finale from Ultradent is a kit for polishing various types of permanent restorative materials. The company claims that the kit contains all items necessary to produce a high-luster surface on hybrid and microfill resin composites, glass ionomers, porcelain, noble metals, and enamel. Finale is packaged in an 8 inch by 13 inch plastic tray with wells for the various tips and brushes. Included in the kit are: assorted rubber polishing cups, points, and disks; traditional and diamond interproximal finishing strips; metal proximal saw (strip); bristle brushes in the shapes of points, cups, and disks; syringes of PermaSeal composite sealer, Diamond Polish, and acid etchant; and syringe dispenser tips. Finale (REF/UP 1116) is available for $179.00 (retail) and $152.15 (government) from Ultradent at (800) 793-5216, (801) 553-4915 FAX, or www.ultradent.com.

(Col Charlton)

Panavia F is dual-cure adhesive resin cement that purportedly releases fluoride and bonds directly to cut enamel, dentin, composite, porcelain and base-, semi-precious and precious metals. According it its manufacturer, Kuraray, Panavia F was especially developed for use with metal and porcelain inlays and onlays, crowns, bridges, and adhesive splints. It can also be used for amalgam bonding. Although the product is not new to the market, it has recently been made available in a Light shade, to meet clinical needs not addressed by the three standard shades (TC, White, and Opaque). Panavia F is supplied with ED Primer, a one-step conditioning agent for cut enamel and dentin. Kuraray claims that the cement's film thickness is 18 microns and that it releases fluoride for a period of three months after use. Panavia F (item no. 1083-KA) is available for $190.00 (retail) and $114.00 (government) from Kuraray America, Inc. at (800) 879-1676, (212) 986-2230, (212) 867-3543 FAX, or www.kurarayamerica.com/main.cfm.

(Col Charlton)

Clearfil Repair is a light-cure system for bonding to porcelain, ceramics, and resin composite when repairing fractured crowns and bridges. The product contains: Clearfil SE Bond Primer for simulataneous conditioning of enamel and dentin; Clearfil SE Bond, a partially filled adhesive that purportedly bonds to tooth structure and metals; Clearfil Porcelain Bond Activator, a silane solution; K-Etchant Gel, a phosphoric acid etchant; and Clearfil ST Opaquer, a low-viscosity resin for masking metal surfaces. If bonding to noble metals, Kuraray recommends use of its Alloy Primer, which must be purchased separately. The product is supplied in a relatively small box and includes a light-protective (i.e., lightproof) box, disposable brush tips, and mixing well. Clearfil Repair (item no. 1971-KA) is available for $200.00 (retail) and $120.00 (government) from Kuraray America, Inc. at (800) 879-1676, (212) 986-2230, (212) 867-3543 FAX, or www.kurarayamerica.com/main.cfm.

(Col Charlton)

RelyX Veneer Cement is a new resin-based cement from 3M ESPE for the permanent cementation of porcelain, resin composite, and ceramic veneers. 3M ESPE claims that the product has a non-slumping viscosity that prevents veneer drift and that it is easy to dispense, apply, and seat. The product is one of

the few solely light-activated cements; this is purported to provide excellent color stability. Six shades are available (Translucent, B0.5/White, White Opaque, A1/Light Yellow, A3 Opaque/Yellow Opaque, and A5/Dark) along with corresponding try-in pastes. Also included is RelyX Ceramic Primer, said to enhance the strength of the cement's bond to ceramic, porcelain, metal, and pre-cured resin composite. Single Bond is 3M ESPE s fifth-generation dentin bonding agent that completes the kit. A kit of RelyX Veneer Cement (item no. 7612) is available for $240.00 (retail) and $151.20 (government) from 3M ESPE at (800) 237-1650, (612) 733-8524, (800) 888-3132 FAX, or www.3m.com/espe/index.html.

(Col Charlton)

Gluma® Comfort Bond + Desensitizer Single Dose has recently become available from Heraeus Kulzer. Although the bonding and desensitizing product has been available for some time in a single-bottle version, the new single dose is packaged as a plastic capsule with an attached, pull-out brush. Each single dose is packaged in a sealed foil pouch. To use the product, the brush is pushed into the capsule, withdrawn, and used to apply the liquid to tooth structure. Heraeus Kulzer recommends Single Dose for bonding and desensitization under amalgam and direct/indirect resin composite restorations. The company claims that the product effectively eliminates sensitivity because it contains glutaraldehyde. The glutaraldehyde is said to precipitate plasma proteins in the dentin tubules which stops fluid movement, thereby eliminating sensitivity. The ethanol-based, 4-META-containing liquid is purported to bond strongly to both moist and dry enamel and dentin. Gluma® Comfort Bond + Desensitizer Single Dose (item number 25153) contains forty 0.1-mL single dose capsules. It is available for $32.85 (retail) and $210.90 (government) from Heraeus Kulzer at (800) 343-5336, (219) 291-0661, (219) 291-7248 FAX, or www.kulzer.com.

(Col Charlton)

Encore® SuperCure is a light-activated resin composite intended for core buildups. It is said to be filled to 84% by weight (60% by volume) with barium borosilicate glass, which makes it radiopaque. Its manufacturer, Centrix, claims it can be cured to a depth of nearly 9 mm in 40 seconds using a standard tungsten-halogen-quartz light unit. Because of its ability to cure deeply, Centrix maintains that the product can be placed in bulk, light activated, and prepared immediately following curing. It is purported to bond strongly to dentin with any one-step (i.e., fifth-generation) bonding agent. Encore® SuperCure is available in two shades (a tooth-colored Natural and a blue Contrast) and in two sizes (0.25 g and 0.50 g) of preloaded, light-protected tips. The tips fit into any Centrix dispensing gun. When ordered, 30 tips of the desired size are provided. The prices and item numbers are given below:

Item Number	Quantity of Tips	Size (g)	Shade	Retail Price	Gov t Price
REF 310140	30	0.25	Natural	$87.95	$79.95
REF 310142	30	0.25	Contrast	$87.95	$79.95
REF 310141	30	0.50	Natural	$110.95	$99.95
REF 310143	30	0.50	Contrast	$110.95	$99.95

The product is available from Centrix, Inc. at (800) 235-5862, (203) 929-5582, (203) 929-6804 FAX, or www.centrixdental.com.

(Col Charlton)

The **Salli Saddle Stool** is an ergonomically-designed stool that is purported to enhance proper posture. The chair is said to be particularly useful for those in the health professions, including physicians, dentists, opticians, etc. The manufacturer claims the chair eases back-shoulder-neck area pain, improves leg circulation, and strengthens back muscles as it improves posture. The primary objective of the stool is to put the user into a more natural, less forced position, which it reportedly accomplishes by eliminating back and arm support. Without these types of support, the thighs are forced to tilt downward at a 45-degree angle and the hips to tilt forward. As a result, the back is said to be placed in a more ergonomic position. First-time users are told to expect muscle soreness for the first one to two weeks until they find their optimal natural sitting position. The chair s frame is made from 3-mm cold-rolled steel and it comes with leather upholstery and high-memory foam padding. Buyers have a choice of five standard colors; an additional ten custom colors are available for an additional fee. The chair weighs approximately 20 lbs. For additional information and pricing contact SmartPractice at (800) 522-0800 or www.smartpractice.com.

(TSgt Sutter)

The **HEM-907 IntelliSense Digital Blood Pressure Monitor** is an automatic blood pressure device designed as a stand-alone unit for use in examination rooms and during surgical procedures. The manufacturer, Omron Healthcare, claims it is an inexpensive alternative to traditional automatic blood pressure/pulse machines. It uses the oscillometric method to measure blood pressure and pulse, which is said to result in greater accuracy. Among its many features are one-button operation, an automatic pressure setting, and automatic inflation/deflation. The unit also is said to be noiseless during operation and has a large easy-to-read liquid crystal display. Two innovative features are the device s hide mechanism designed to hide the onscreen results from the patient s view (to prevent white coat syndrome), and the ability to calculate the average of up to three readings. The HEM-907 runs on 120-volt AC current (a battery pack is optional) and comes with a full 5-year warranty. The product is available for $650.00 (retail) and $450.00 (government) from Omron Healthcare at (800) 634-4350, (847) 918-6707 FAX, or www.omronhealthcare.com. Government facilities can contact J. Michael O'Connor (the Omron government representative) for information at (815) 236-8468 or via e-mail at oconnor@mc.net.

(TSgt Sutter)

FARpin, Inc. recently introduced the **FARpin Post System**. The product consists of pre-sized, stainless-steel, hollow, perforated posts that can easily be altered chairside, depending on the clinical situation. The post is passively cemented with a resin luting agent. Retention for the core is accomplished in one of three ways: 1) using the coronal extension of the perforated post, 2) via placement of solid, 0.030" diameter rods through the post perforations, or 3) by weaving stainless-steel wire through the perforations and extending the wire coronally. The Introductory Kit at $60.00 (retail and government) includes: 5 different diameter posts (0.042", 0.052", 0.058", 0.065", 0.072"); two burs; and ten, one-inch lengths of stainless-steel wire. The Operating Kit for $190.00 (retail and government) includes: 20 posts (four of each size); two burs; and ten, one-inch lengths of stainless-steel wire. Value Pacs are available which include 10 posts of one size (or mixed sizes) for $60.00. For more information, contact FARpin, Inc. at (801) 262-8406.

(Col Leonard)

Seal-Tight® Disposable Air/Water Syringe Tip System from Pinnacle consists of disposable plastic air/water syringe tips and a dental unit-specific metal adapter. To install the product, the adapter is screwed onto the front of a standard air/water syringe. To insert a syringe tip, a plastic ring is depressed on the adapter and the tip slipped into it. The tips come pre-bent but can be further bent or curved to improve intraoral access. Pinnacle claims that the tips provide absolutely dry air because the inner seal of the tips acts as an O-ring. Also, the tips are claimed to enhance infection control because of their disposability. Pinnacle makes four different types of metal adapters and users must specify the one they need when ordering. The four types are ones that fit A-dec, DentalEZ, Engle-Marco, and Press Ring dental units. Please note that Pinnacle supplies the metal adapters free of charge. The tips are available in a bag of 200 or a bag of 1500. A bag of 200 costs $34.00 (retail) and $24.48 (government); a bag of 1500 tips is $225.00 (retail) and $157.50 (government) For more information, contact Pinnacle Products at (800) 878-3902, (952) 469-5482 FAX, or www.kerrdental.com/pinnacle.

(Col Charlton)

The **Amsco Reliance 333** is an under-the-counter instrument washer/disinfector manufactured by Steris Corporation. The unit provides automated washing, low-level disinfection, and drying of instruments. It may be ordered as an under-the-counter model (38"W x 34"H x 29"D) or with an optional countertop that can be attached to the unit, increasing its height to 35.5". The dimensions of the interior washing chamber are 24"W x 19"H x 23"D. A two-level instrument rack fits in the chamber leaving an available height clearance of 9" on the upper shelf and 3.75" on the lower shelf. Utility requirements include softened hot and cold water, deionized water, and drain. The unit can be configured for various electrical feeds. Retail price varies according to configuration, with a typical configuration costing approximately $26,000. Government pricing should be obtained from the company. For more information, contact the Steris Corporation at (800) 548-4873, (440) 354-2600, or www.steris.com.